Wireless Electricity Transmission and Causes

A Paper writing Submitted

By

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To

Department of School of Computer Application

Submitted in Partially Fulfillment of the Requirement for the

Award of Degree of

Master of Computer Application

Under the guidance of

Miss Parminder kaur

November 2014

DECLARATION

I hereby declare that the paper writing entitled **"Wireless Electricity Transmission And Causes"** submitted for the Master of computer application (M.C.A hons) Degree is entirely my original work and all ideas and references have been duly acknowledged. It does not contain any work for the award of any other degree or diploma.

CERTIFICATE

This is to certify that lovepreet kaur has completed MCA hons paper writing titled, "**Wireless Electricity Transmission and Causes"** under my guidance and supervision. To the best of my knowledge, the present work is the result of her original investigation and study. No part of the paper writing has ever been submitted for any other degree or diploma. The paper writing is fit for the submission and the partial fulfillment of the conditions for the award of MCA hons.

I further declared that I or any other person has not previously submitted this report to any other institution/university for any other degree/ diploma or any other person.

Date:

Signature of Advisor

Miss Parminder Kaur

ACKNOWLEDGEMENT

No matter how much enterprising and entrepreneurial one's thinking is, yet nobody can do everything all by himself without some help and guidance. It is inhuman if the concerned person's assistance goes without appreciation and thanks.

First of all, I would like to thank my Almighty God, who has always blessed me & guided me to work on the right path of life and for giving me strength to do this work. I wish to express my deep gratitude to my guide, Miss. Parminder Kaur, Assistant Professor in Department of School of computer Application, LPU, Jalandhar, India for her generous guidance. Her instant responses to my countless inquiries have been invaluable and motivational.

Then I would like to offer my sincerest gratitude to Mr. Rishi Chopra, Head of the Department of School of computer Application, Lovely Professional University, Jalandhar for providing all the facilities and environment. I would also like to thank all my Teachers for their stimulating discussion and invaluable suggestions during this dissertation.

I would also like to thank my parents for always supporting me in the tough and happy moments. With their blessings, inspiration and unconditional love every work in the world seems possible.

I also gratefully thank to my friends, I have benefited from all for their advice and information. They all have been the biggest motivator and inspiration in my life.

Finally, my special thanks go to the authors whose work I have consulted and quoted in this work.

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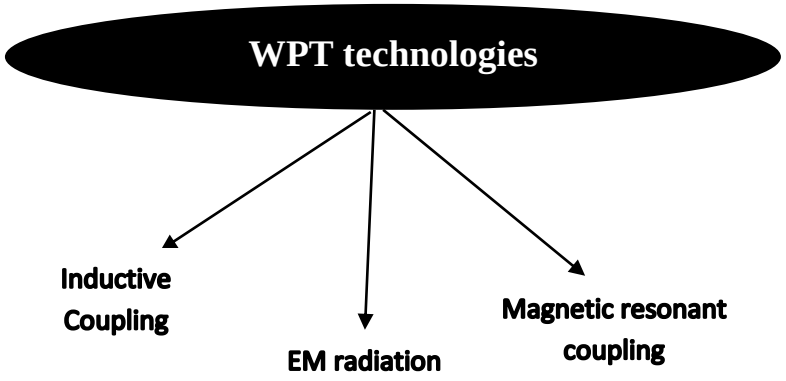
INDEX

Introduction

Wireless network we are using for transferring data from one end to another without using the wires, when we are sending data from source to destination, we are following physical environment variables that is transfer the data from source to destination without wire and when we are talking about the wireless sensor network, means we taking input from the physical sense and then indicating that this field is sensory. Basically wireless sensor network takes input as sound, temperature, pressure and indicate some defined output .In wireless sensor network we can transmitting with the help of physical environment so we can transmit the electricity also using the electromagnetic field, it means we can generate the electromagnetic field and then transmit the electricity without wire. In this case if your magnetic field length is high means you can transmit the electricity up to that length. When it was introduce length was 2.1 meter but now this length extends up to 5 meter means we can transfer electricity up to the 5 meter without any kind of physical touch like wires and Wireless charger for mobile is the live demonstration. When we are talking about wireless charger for laptop then we need to think that if we can make the wireless charger for mobile then we can make for laptop also Now a day we can transmit energy wirelessly but before some it was only imaginary thing but now you can transmit the energy wirelessly up to limited length and limited quantity because if we are increase the quantity of the energy it will harmful for the human means they also can be effected because its electric energy so we can transmit it like normal transmission. If we want to transmit energy up to maximum length using the Resonators, Resonators help us to transmit energy up to maximum length. Resonators helps to expand the electromagnetic field up to some distance.

Technology of Wireless Energy Transmission



We can elaborate these technology based upon the distance.

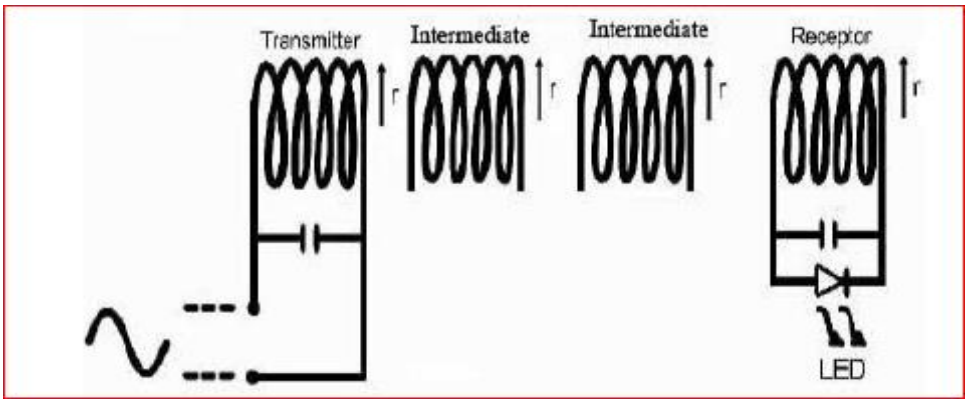
- Short range distance
- Medium range distance
- Long range distance

Objectives:

Wireless charger for laptop will be develop then what were the main objectives that are define the need of this product for present and future purpose and find out reason .

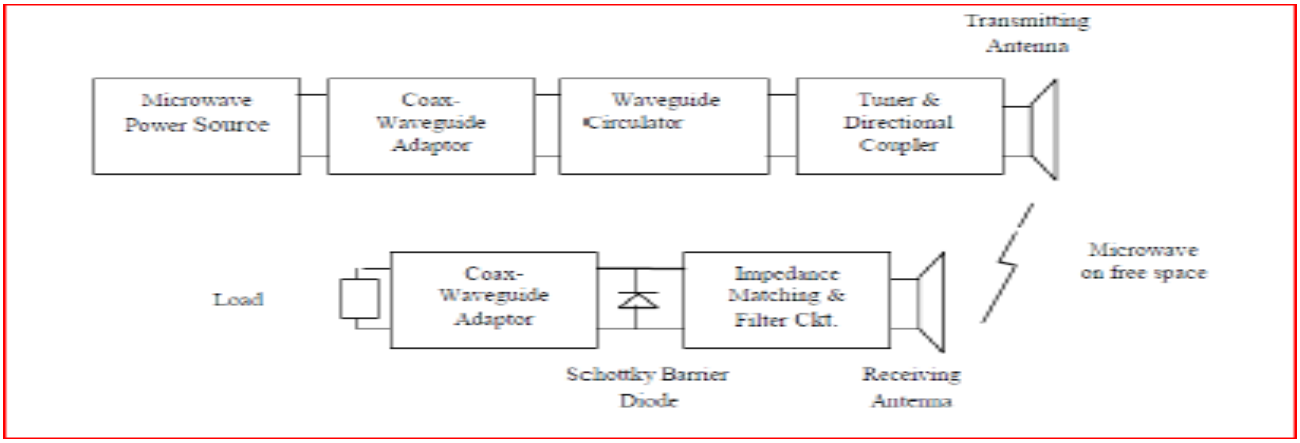
Literature survey:

In our research paper we have read many paper that are define this topic very well so there are some conclusions from those paper. They were introduce about the electricity can be transfer based on the magnetic field and also find the length of the transmission that was 2.1 meter and they told that this is very expensive terminology for charging purpose and they told that we can extend the length of the magnetic field[1].Professor extend the range of electromagnetic field up to 5 meter, professor develop new term Dipole Coil Resonant System (DCRS) for increase the range of the magnetic field this term we can implement in between transmitter and receiver coils[2].Wireless transmission of electricity have high transmission integrity and low loss it means when we are transferring electricity up to the any length and transfer power is high means 96%-97%.[3]



We can transmit the electricity with the help of microwaves using microwaves loss rate of power is high and using antennas for transferring the power one end to another without wire.[4]

Architecture of wireless power transfer with its all components.



When we are going to develop the wireless sensor network, we are facing many challenges when we are going to establish the WSN connection.[5]

- ✓ Hardware integral and operating system.
- ✓ Limited access area.
- ✓ Database querying.
- ✓ Architecture issue.
- ✓ Quality of service.
- ✓ Security.

When we going to increase the length of the electricity transmission ranges then we need to follow effective and high quality product, these are the component that we are using for increase the range of wireless power transmission. [6]

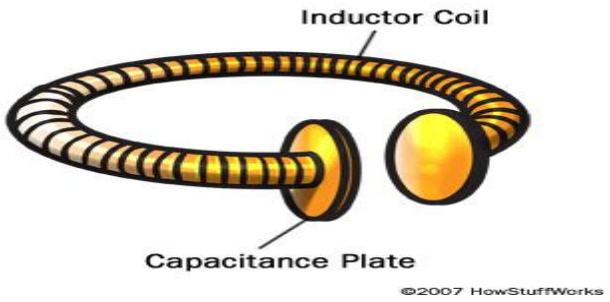
- ✓ Resonator: Transmitter & Receiver
- ✓ Resonance
- ✓ Resonator
- ✓ Optimum Frequency Selection
- ✓ Final Resonator Design

When we are implementing the wireless charger, there are many advantages available vice verse disadvantages also means what is main disadvantages that are harmful to the health and it can be effected physically[7].

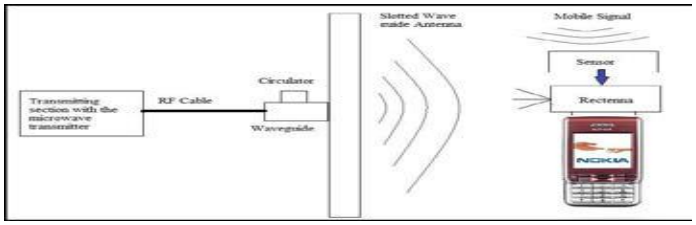
- ✓ Electrical shock
- ✓ Fire Hazard
- ✓ Electromagnetic field Exposure

They also provide the various techniques for wireless power transmission. The technique which are used in this classified on the basis of distance between the receiver and transmitter.

1. Short range distance: In this we use electromagnetic to transfer energy.
2. Moderate distance: we extend the distance between the coils by adding resonance to the equation. In this we also use capacitance plate which can hold the charge. And it is attach to each end of coils.



3. Long distance: In this we use array of dipole antennae which have positive as well as negative dipole. This antenna is connecting to shottkey diodes. It means microwaves reach the diodes antennae and after that the diodes antennae collect the microwave energy and transmit it to the diodes. Diodes are act like switches [8]. They define that microwave are small as compare to the waves used in radio broadcasting. And in this a new proposal had been made a mobile phone is charge automatically when they are talked on phone. This is done by microwave. This signal is transmitted from the transmitter along with the message signal using special kind of antenna called slotted and for wireless power transmission three most vital component are used which is microwave generator, transmitting antenna, rectenna .



The system designing of wireless charger of mobile phone consist of four parts transmitter design, receiver design and the process of rectification and sensor circuitry.[9].It is mainly focused on the Tesla theory, microwave power transmission this is also known as solar power satellite. Tesla theory is designed by the Dr. Nikola Tesla. They want to transmit electricity from this tower to the whole globe without wire using ionosphere. Solar power satellite is to build in high each orbit to collect sunlight and convert that energy into microwaves [10]

Causes related to wireless energy transmission

- When we are increasing the frequency of the electricity without using Resonator then it will directly effect on the Humans and it's really harmful for humans.
- The electricity transfer limit is fixed if we want increase it we need to use more powerful Resonator hardware so it can able to send or receive the waves successfully.
- We can transfer electricity wirelessly up to very short range of distance.
- We can transmit minimum amount of energy using this type of energy we can the charge the mobile phones only.
- Currently in the market the available wireless charger have limited range like up to few inch, if the device is no within range then it will not chartered.
- As device is being charged wirelessly it takes little longer to charge then charging with cables because frequency quantity also matters that how much energy you are transferring.
- In this case mobility is less as compare to charging with the help of cable.
- Using wireless charging your device life also be effected, means your device life can be less as compare to cable based charging.

Conclusion

We can transfer energy wirelessly up to limited distance and limited frequency. we are using resonator to convert electricity into the electronic waves and then we are using one Resonator to transfer those waves to another Resonator, second Resonator will receive those electromagnetic waves then again convert all the waves into the electricity so your device can use those converted electricity as a charging.

Publication

International Journal of Engineering Research and General Science (ISSN 2091-2730)"Wireless Energy Transmission and Causes"

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